How Many UAVs for DOD?

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The Department of Defense (DOD) reportedly expects to [increase its use of medium unmanned aerial vehicles](#) (UAVs, or "drones") by almost 50% over the next few years, from 65 "orbits" to 90. (An orbit is continuous coverage by one UAV for 24 hours; it may require three UAVs working in shifts to provide one orbit.)

Such an increase would comport with defense leaders' [pronouncements](#) and [think-tank articles](#) regarding the future of UAVs, continuing demand for intelligence to [support current operations](#), and [mass-media articles](#) predicting an inexorable rise of remotely operated combatants.

On the other hand, the reported DOD intent to expand UAV missions would seem to be inconsistent with DOD's own procurement history and plans.

Figure 1. DOD Annual UAV Procurement

FY2012-FY2020
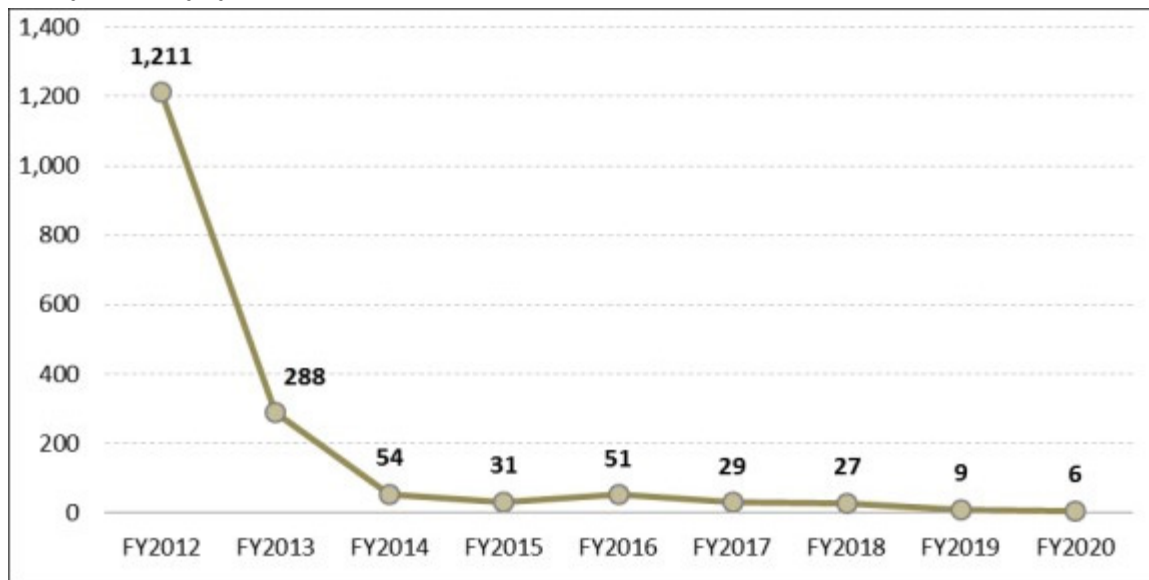
Source: DOD budget submissions for FY2012-FY2016.

Note: Includes medium and larger UAVs (MQ-1, RQ-4, MQ-8, MQ-9, RQ-11).

Figure 1 shows DOD medium- and larger-UAV procurement projected through the current Future Years Defense Plan. As the chart makes clear, despite any predictions of future UAV use, DOD has significantly reduced the number of UAVs it is buying.

Why Is This Happening?

Two principal factors drive the reduction in UAV procurement:

First, the department purchased thousands of unmanned aerial vehicles over the years before 2012 to address high demands for intelligence and other missions in Iraq and Afghanistan. DOD therefore believes it has enough current-generation UAVs to meet the declining requirements as U.S. forces are withdrawn from those areas. (The Air Force has so many that it plans to retire the MQ-1 Predators that make up the bulk of the larger-UAV fleet.)

Second, the history of UAVs shows that they were not built as a result of government requirements, but through independent research and development by industry. Industry's inventions were then turned over to the military to see if commanders could find uses for them. DOD again appears to be waiting for industry to develop a new generation of UAVs rather than acquire more of the current models.

Next generation UAVs might involve higher speed with jet propulsion, greater stealth, greater endurance, or some combination of these and other advanced capabilities. However, DOD has not put out unclassified specifications or requests for proposal for new generations of UAVs. Instead, it seems willing to let industry develop and put forward whatever that next generation will be. (The significant exception to that is the Navy UCLASS program, which is covered in several CRS publications.)

Since DOD has enough UAVs able to operate in current, permissive environments, and DOD faces challenges in determining what future wars look like (and therefore what types of UAVs would be required in the future), this may be a reasonable time to take such a pause. At the same time, one may also ask how industry would provide suitable next-generation UAVs in the absence of guidance as to the desired characteristics, and whether technology-driven procurement is superior to traditional requirements-driven plans.

The current low-rate UAV procurement profile may change should DOD take the direction mentioned earlier to increase its UAV orbits from 65 to 90. That will reportedly be done with a mixture of Army MQ-1Cs and contractor-operated assets (although contractors would be allowed to operate only reconnaissance UAVs and not to release weapons). However, given the strategic pause in the purchase of current generation airframes, it remains to be seen whether DOD chooses to fill out the expanded requirement with more examples of current UAV models or defers that requirement until the next generation is available.

Finally, any effort to expand the number of UAV orbits is not only a matter of having the airframes, but also of having the capacity to process more data. The amount of data coming in even from existing systems is proving a challenge to process. If the strategic pause in UAV procurement gives DOD an opportunity to strengthen the back-end processes that interpret, fuse, and distribute UAV data, it may prove to have been a wise investment.